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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/685,364

10/14/2003

Douglas Edward Woehler

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4382

25281

7590

01/19/2011

DICKE, BILLIG & CZAJA

FIFTH STREET TOWERS

100 SOUTH FIFTH STREET, SUITE 2250

MINNEAPOLIS, MN 55402

EXAMINER

PIPALA, EDWARD J

ART UNIT

PAPER NUMBER

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/685,364	<b>Applicant(s)</b> WOEHLER, DOUGLAS EDWARD	
	<b>Examiner</b> EDWARD PIPALA	<b>Art Unit</b> 3663	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-60, 63 and 64 is/are pending in the application.
- 4a) Of the above claim(s) 16-29 and 47-59 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-15, 30-39, 41-46, 60, 63 and 64 is/are rejected.
- 7) ☒ Claim(s) 11 and 40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This Office action is in response to Applicant's reply of 8/9/10.  
Claims 1-60, 63 and 64 are presently pending.  
Claims 16-29 and 47-59 have been withdrawn from consideration.

### ***Allowable Subject Matter***

2. Claims 11 and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 12-15, 30-39, 41-46 and 60, 63 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadler (6,381,541) in view of Runnels (4,527,158).

Applicant's exemplary claim 1 presently recites:

*A ground surface location and identification system comprising;  
a location transmitter positioned at a location within a coverage area and having stored therein a physical location code corresponding to the location and configured to provide an optical signal representative of the location code, and*

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*a location identifier configured to be coupled to a moveable object and having an object identification code representative of the object stored therein, and configured to receive the optical signal and to transmit, via a wireless transmitter, an identification signal representative of the physical location code and the object identification code.*

Applicant's independent claim 30 recites:

*An airfield ground surface location system comprising:  
a location transmitter positioned at a location on an airfield and comprising:  
a light source configured to receive power from a power source; and  
a location encoder having a physical location code (PLC) representative of the location stored therein and configured to generate an optical signal encoded with a PLC by turning the power to the light source on and off based on the PLC; and  
a location identifier coupled to a vehicle and comprising:  
an optical receiver configured to receive and convert the optical signal to an electrical signal;  
a signal processor having a vehicle code representative of the vehicle code stored therein and configured to decode the PLC from the electrical signal and to provide a vehicle location code representative of the vehicle code and the PLC; and  
a wireless transmitter configured to transmit an identification signal representative of the vehicle location code.*

Applicant's last independent claim 60 presently recites:

*An airfield ground surface location system comprising:  
a plurality of airfield guidance markers, each airfield guidance marker positioned at a location on an airfield and providing guidance illumination for visually directing aircraft on the airfield, each airfield guidance marker including:  
a light source providing the visual guidance illumination; and  
a location encoder having a physical location code representative of the location at which the airfield guidance marker is positioned stored therein and configured to modulate the light source to optically encode the visible guidance illumination with the physical location*

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*code, wherein location encoder modulates the light source at a frequency imperceptible to human vision; and*

*a location identifier coupled to an aircraft and having an aircraft code representative of the aircraft stored therein, the location identifier including:*

*an optical receiver configured to receive the visible guidance illumination and to detect the physical location code therein; and*

*a wireless transmitter configured to transmit an identification signal representative of the vehicle identification code and the detected physical location code to a surface movement control system.*

As noted in the previous Office action, Sadler ('541) discloses a Airplane ground location methods and systems, where a ground location evaluator includes one or more interrogators. Individual interrogators are configured to receive wireless communication from multiple airplanes that are located on the ground at an airfield. Multiple location transmitters or transceivers are provided and each is mounted on an airplane. Individual location transmitters or transceivers are configured to wirelessly communicate with the one or more interrogators. The ground location evaluator is configured to process the wireless communication to ascertain the location of communicating airplanes and responsive thereto, determine whether there is a likelihood of a runway incursion. Figures 3 and 5 respectively show the individual plane transceivers and various windows on the tarmac related to forbidden and allowed locations, etc (col. 4, line 18+, col. 5, lines 33+). Column 7, lines 43+ disclose the air traffic controller display provided in the control tower used by controllers to ascertain the state of the airfield at any one time. However, Sadler does not teach the use of a light source as part of the location transmitter or airfield guidance marker, nor the types of power source control which would be necessary to appropriately modulate an LED type infrared light source so as to transmit an encoded physical location code.

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Runnels teaches an aircraft collision pilot warning indication system including a host platform having an azimuthal system based on a plurality of light detectors for determined headings, where figure 6 shows an embodiment of such an electrical alarm indicator system on an aircraft, and column 8, lines 31+ discuss the use of modulation of the signal light at specific frequencies so as to be detected above unavoidable background light.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Runnels with respect to a location transmitter which makes use of an optical signal, within the context of the Ground location monitoring system of Sadler instead of the location transmitters thereof, in order to provide optical airfield warning signals to an aircraft transponder system.

#### ***Allowable Subject Matter***

4. Claims 11 and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

5. Applicant's arguments filed 8/9/10 have been fully considered but they are not persuasive.

#### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWARD PIPALA whose telephone number is (571) 272-1360. The examiner can normally be reached on M-F 9:30 - 6.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edward Pipala/  
Examiner, Art Unit 3663